

# Pedestrian-Friendly Streetscape in a Tropical Business District

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## Abstract

*Streets are the lifelines of a community. Choke them, and the place dies; deprive them of their nutrients and ailments will be prevalent. A characteristic of a good street community is having all the necessary elements that will make the users feel safe and comfortable. Pleasant surroundings, appropriate lighting and other well-designed street furniture plus good maintenance all contribute to make a road both vehicular and pedestrian friendly.*

*One of the major problems encountered in designing a successful streetscape in a tropical country is providing convenience to pedestrians due mainly to the harsh climate. The usual unpredicted monsoon rains and hot rays from the sun make long and even short distance walking a hard task and something that is to be avoided if possible. This, coupled with air pollution due to vehicular emissions aggravated by traffic congestion, plus unsafe sidewalks, make walking unenjoyable.*

*A community, to be successful and thriving, must have an efficient road network in order for it to be more accessible, attractive to investors and visitors and thus more prosperous. How a premier business district was able to cope with the challenges and problems will be discussed in this paper. Studies of other communities will also be considered.*

*While many studies had been done on pedestrianization, very few has dealt with existing streets in tropical countries, especially the Philippines and making them pedestrian friendly vehicular roads. Recommendations that can serve as guidelines and innovative design ideas will be introduced which can be applied to other existing thoroughfares addressing the innate characteristics of the Filipinos when it comes to street usage.*

## Introduction

One major factor for a community to be successful and thriving is to have an efficient road network that will move

people and things from one place to another not only by means of transportation but also through walking. As of now, majority of Metro Manila's existing roads does not encourage walking.

Planners and designers strive to produce an ideal design that will promote people movement without depending too much on motorized vehicles. How to provide a place that will have all the requirements of a great street is a dream that will solve most if not all of the hindrances in having a successful urban circulation system.

How can pedestrian-friendly concepts be incorporated in a redevelopment of a tropical business district with the aim of reducing vehicular traffic?

How will a commercial district be decongested of too much traffic? Will encouraging people to walk reduce this vehicular traffic? How can people be encouraged to walk?

## Objectives

This study aims to identify the different problems that discourage people from walking and present possible solutions for them. It also intends to produce recommendations that may help improve pedestrian circulation in existing thoroughfares and seeks to show that people will be encouraged to walk given a pleasant environment

The study may serve as a guide for other designers in planning pedestrian friendly walkways and streets especially in tropical countries like ours. This will also provide local government with additional means and ideas in improving their existing streetscapes.

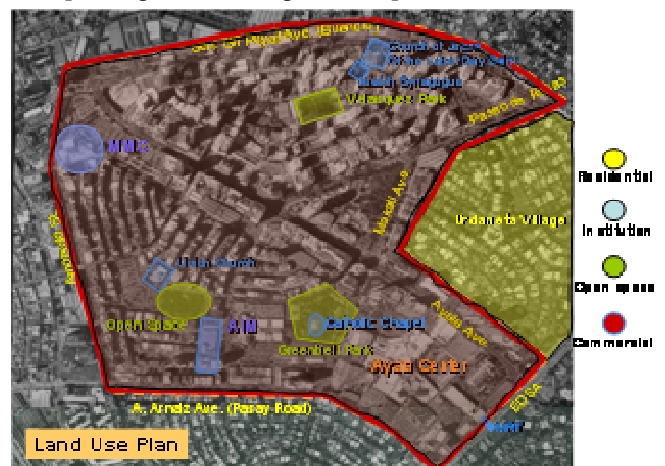


Figure 1: Land Use Plan

The study area is limited within the Makati Business District developed by Ayala Corporation and managed by Makati

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Commercial Estates Association and within the area bounded by Sen. Gil Puyat Avenue on the north, Antonio Arnaiz on the south, EDSA, Makati Avenue and Paseo de Roxas on the east, and Amorsolo Street on the west.

### Characteristics of a pedestrian-friendly Street

Based on the definitions set in Wikipedia encyclopedia and by the authors, Harvey Rubenstein, John Motloch and Alan Jacobs in their respective books plus observations made, the following parameters were arrived at and used to serve as the criteria for having a pedestrian friendly street:<sup>2</sup>

1. It must be accessible and permeable.
2. It must be safe and inviting - has certain characteristics of publicness and transparency.
3. It must be comfortable for users to walk on - must have enough shade and cover and with well-designed and well-constructed elements
4. It must provide users with a pleasant view - well-placed street elements are great factors in making a route enjoyable
5. It must be well-maintained.

### Case Study – The Makati Central Business District (MCBD)

The development of the whole Ayala area was first envisioned by Colonel Joseph R. McMicking, a Philippine Army World War II veteran, of Scottish and Spanish-Filipino ancestry, who married into the Roxas-Zobel-Ayala. Together with other Ayala managers, the Ayala Master Plan, a 25-year urban development program of a new community was developed after the war. One aspect of it, popularly called for the Ayala Avenue-Paseo de Roxas complex to be Greater Manila's new financial and business center,<sup>3</sup> which later came to be known as the Makati Central Business District. Serving as the main artery of this commercial district is the Ayala Avenue, a 180 ft. wide former runway strip, now lined with tall buildings housing most of the banks and other big companies, and thus, becoming the "Wall Street" of the country.

From this commercial avenue radiated two mixed used developments: Legaspi Village on the left and Salcedo Village on the right, with the Makati Commercial Center at the south as its main anchor. The whole central business district is located at the northwest side of Makati City, one of the thirteen cities and municipalities comprising Metro Manila.

<sup>2</sup> Jacobs, Allan B. *Great Streets*. Ma, U.S.A. & London, England: The Hit Press, 2001. pp. 270-279.

<sup>3</sup> The Life and Career of Joseph R. McMicking, *Chronicle*. Spec. issue. 23 March 1969: 33-40

The 70's and 80's saw the mushrooming of different commercial establishments and residential condominiums. By the early nineties, the land value in this area skyrocketed. It was also during this time, at the height of the so-called economic boom, that the commercial district bustled with the mass exodus of workers from different places. As a result, traffic congestion, too much air pollution, aggravated by construction growth and unfriendly streets, all contributed to the uninviting image that befell this area. Traffic was so horrible that it took around 30 minutes just to traverse the two kilometer Ayala road. It was also during this time that vehicular rerouting started.

The association of different commercial establishments and Ayala Land, Incorporated, made allied strides on decongesting the vehicle-dominated streets, through measures that will make walking attractive to the thousand of commuters, employees, shoppers, visitors, business people and others that visit the place daily.<sup>4</sup>

Since a big proportion of the people are workers/commuters from nearby towns and cities, the daytime population of the whole city becomes two times higher than that of the nighttime. Thus, the area became almost deserted and "dead", except for passing vehicles, after office hours; "unsafe and unattractive" for people who stayed late or live in the vicinity who want to walk. The Makati Commercial Estates Association and Ayala Land, Inc. ventured on urban renewal, particularly on enhancement of streetscapes.

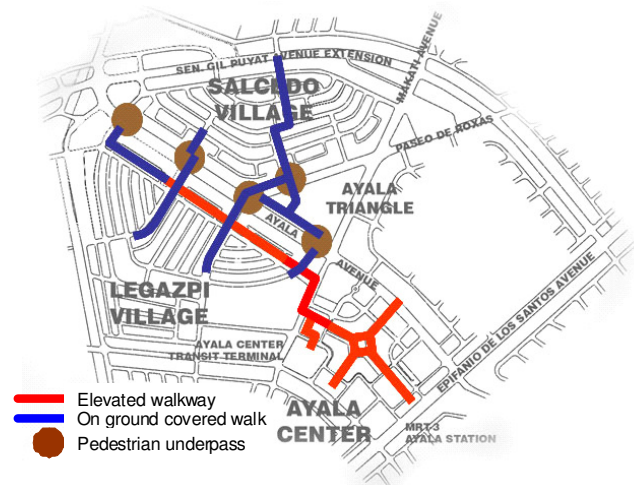


Figure 2: Covered Walkway Network<sup>5</sup>

The whole area was inventoried, and as per analysis and recommendations, some great improvements were made. Underpasses were placed where necessary and elevated

<sup>4</sup> According to Mr. Cesar Campos, "there are about one million people going to the CBD each day and at least 400,000 cars are going through here". The Manila Bulletin online. <http://www.mb.com.ph/issues/2005/03/18/MTNN2005031830925.html>

<sup>5</sup> Camarillo, Ernesto. "Enhancing Mobility in the City of Makati through Sustainable Transportation Systems". Forum on Improving Pedestrian Facilities and Bikeways in Metro Manila. 6 September 2005, Asian Development Bank, Manila, Philippines. <http://www.cleanairnet.org/caiasia/1412/article-69376.html>

walkways were introduced together with on-grade covered walks. Street planting was enhanced and sidewalk pavings were repaired and restored. Commercial establishments, such as restaurants and especially 24-hour convenience stores were then allowed to operate. The objective is to enliven the place and at the same time offer workers and building occupants with the necessary amenities without having to ride towards the commercial center. The idea is to provide connecting covered walks along areas where pedestrians often pass. In 1997, the first portion of the elevated walkway was constructed. A portion of an existing street was closed to traffic, designed and paved and planted and totally pedestrianized (see Fig. 7). Improvements were made and continuously implemented.



**Figure 3: 2005 Photo of pedestrian underpass and covered walk along Paseo de Roxas cor. Sedeno St.**

Did they succeed? Were the pedestrians attracted to stroll and walk? Were the traffic problems solved? Were the plans and recommendations fully implemented?

In a 2000 survey, Arch. Salvador Tan of Ayala Land, Inc., showed that the construction of the elevated walkways, covered walks and underpasses helps increase pedestrian traffic volume by 200,000 on a weekday while time travel along main routes is notably reduced into 7-10 minutes. It was also observed that the travel distance on foot, covered by pedestrians significantly increased to 700 meters from 400 meters.<sup>6</sup>

As per recent count and observation made along elevated walkway, more than 10,000 people pass this passageway alone, validating the findings that Arch. Tan conducted. Significant number was observed during peak hours and during lunch break (See Fig. 4). Most number of perambulators observed are coming and going from Ayala Center up to Paseo de Roxas. Very few walk straight up to the end of the walkway. Maybe because it will take around 10-13 minutes from Ayala Center to reach V. A. Rufino St. "A general rule of thumb is that people will walk six to ten minutes before they hop on a bus, dive into a subway or hail a cab".<sup>7</sup>

In the latest survey made, 100% of the people interviewed prefer passing the elevated walkway due to convenience; it is covered, has even pavement and they do not have to wait

just to cross the streets, thus, reducing travel time which confirms the previous study made.



**Figure 4: People going to Ayala Center at lunchtime**

Maintenance people start cleaning as it opens at 6:00 in the morning as several security guards roam up to 10:00 in the evening making it very safe. The strategic placement of this well-designed, well-kept and well-secured and roofed walkway makes it very accessible (See Fig. 5). Plantings were incorporated and except for some areas where views are not so good, this overpass has almost all the characteristics of an ideal pedestrian walkway as enumerated earlier. However, it fails in terms of handicapped accessibility. Although escalators are present in all entrances, they are not directly connected on ground level. Additional concrete stairs have to be placed.<sup>8</sup> The original concept was to have this walkway connected with every building that it passes. But, because of security reason, this idea did not materialize.



**Figure 5: Elevated walkway near Cojuangco Bldg area**

In the case of the covered sidewalks, only the areas along Ayala Avenue and Jaime Velasquez Street have the qualities of a good pedestrian passageway based on set criteria.

<sup>6</sup> Tan, Salvador. "Makati Central Business District Pedetrianization and Traffic Segregation Projects". Forum on Improving Pedestrian Facilities and Bikeways in Metro Manila. 6 September 2005, Asian Development Bank, Manila, Philippines. <http://www.cleanairnet.org/caiasia/1412/article-69376.html>

<sup>7</sup> Ramati, Racquel. How to Save Your Own Street. New York: Dolphin Books, Doubleday and Co., 1981.

<sup>8</sup> Due to budget constraint, escalators used have standard uniform sizes and length.



In a 1998 physical evaluation of the whole MCBDD streets sidewalks, it was observed that of all the areas considered, only the major streets passed the criterion set in the study<sup>9</sup>. A portion of Paseo de Roxas, from Ayala Avenue to Makati Avenue and a part of Makati Avenue from Landmark to Paseo de Roxas, passed the evaluation. Wide sidewalks, shade-giving expansive canopies of matured trees, and underground location of utility lines, all contribute to its adequacy and uncluttered look. Sections of Legaspi, Salcedo, and Rada Streets can somehow be considered acceptable due to the presence of wide sidewalks, absence of utility poles and uniform elevation, plus the presence of shade trees. In this assessment all the areas considered as back street, including Arnaiz St. failed the evaluation. Reasons for the failure are the presence of street furniture that are improperly located like several utility boxes and communication poles all situated in one place,<sup>10</sup> and signage, where in some instances, totally blockading the way of the passers-by. It was observed that people preferred to just walk on the street due to these obstructions. Tree planting is also sparse, hence the absence of shade.

At the recent evaluation made, these streets still fail the standards laid. It would have been better if shared or unified street system is applied especially for the back streets. In this proposal, there will be no traditional raised sidewalks, and the road level (carriageway) and sidewalk (footway) are not rigidly defined.<sup>11</sup> Bollards can be used as pedestrian protection.

The length and distances of roads are other major aspects that also affect the mobility and accessibility of the place. One has to go around a block just to reach the other side of the street. Only one alley is placed in the entire district, located along H. V. de la Costa St. cutting thru Gil Puyat St.

The 1998 study also shows that almost all the streets failed in terms of aesthetic quality for lack of coherence: a) no uniform theme for sidewalk design; b) different tree species are placed. c) improvised jeepneys served as food kiosks. This was enhanced and somehow corrected with the provision of simple but similarly designed kiosks all over the commercial district.

In terms of publicness, it is only in the major streets and two minor streets where more social interactions were observed. The presence of 24-hour convenience stores, sports and coffee shops, small restaurants and other commercial outlets make the places alive.

In terms of *safety*, 10 roaming and 30 stationary guards plus the city policemen, patrol the whole area. Per police file,

there are no records of major crime committed in the area in the recent years.

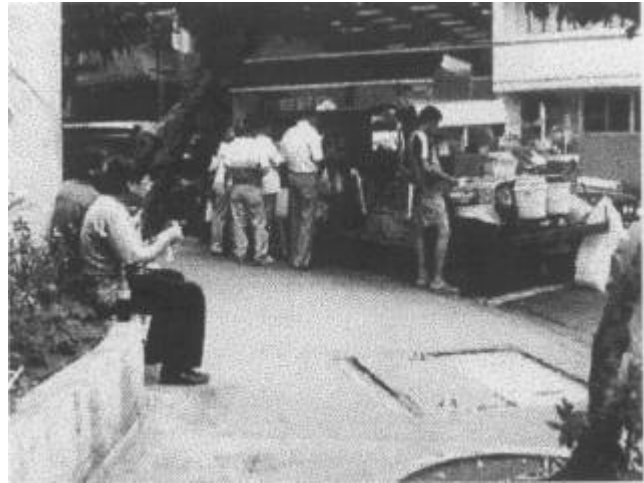


Figure 6: 1998 photo of improvised jeepney

Maintenance is generally acceptable, except for some portions of Paseo de Roxas from Makati Avenue to Gil Puyat alongside Urdaneta Village where it is quite neglected. Some cracked planter boxes and pavement were observed along Arnaiz St. Paseo de Roxas and other areas contributing to the unsafeness of the place. MACEA employs around 35 maintenance people, 23 just to keep the street clean and 12 all-around repairmen.

### Traffic Condition

Based on a 1997 survey, around 400,000 vehicle trips were counted along the district. Because of this, major streets like Ayala Ave., Paseo de Roxas, Makati Ave. Arnaiz St., and Gil Puyat have reached their saturation points. With the construction of MRT3 along EDSA in 2000, the CBD walkway network system, the volume of traffic along the major roads have significantly reduced, as proven also by the fact that the number of cars using the car parks substantially lowered.<sup>12</sup>

The closure and pedestrianization of a portion of Legaspi Street between Dela Rosa and Ayala Ave., greatly eased the traffic along these streets. However, traffic bottlenecks can still be experienced along the corner of Gil Puyat and Ayala Avenue. Based on very recent observations done along this area, it takes around 8-10 minutes before you can reach the corner of Paseo de Roxas coming from the corner of Gil Puyat or a distance of around 700 meters. The on-grade level pedestrian crossing, the ambulant vendors and the fact that the traffic flow from a major exit point, H. V. Dela Costa St. is merging with that in Makati Avenue all contribute to the heavy traffic being experienced in the place.

<sup>9</sup> Makati Central Business District, Landscape Masterplan, Evaluation and Preliminary Recommendations Report. PDAA Design, August 1998

<sup>10</sup> Telecom providers prefer to build their own poles instead of renting with the electric company due to prohibitive cost. Underground lines also cost 4 times higher than above ground installations.

<sup>11</sup> Southworth, Michael and Ben-Joseph, Eran. *Streets and the Shaping of Towns and Cities*. New York: McGraw-Hill, 1996.

<sup>12</sup> The Manila Bulletin on Line.  
<http://www.mb.com.ph/issues/2005/03/18/MTNN2005031830925.html>

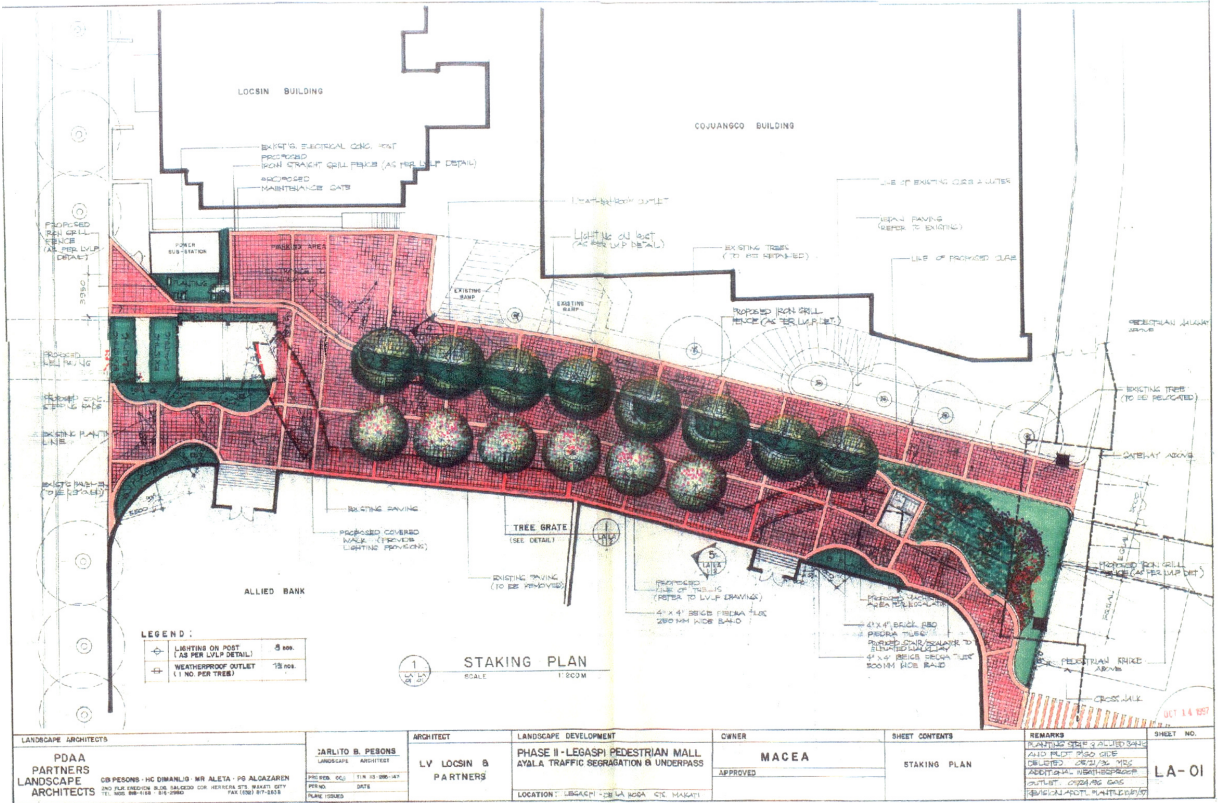


Figure 7: Plan of Proposed Pedestrianized Street (portion of Legaspi St. near corner of Ayala Avenue)

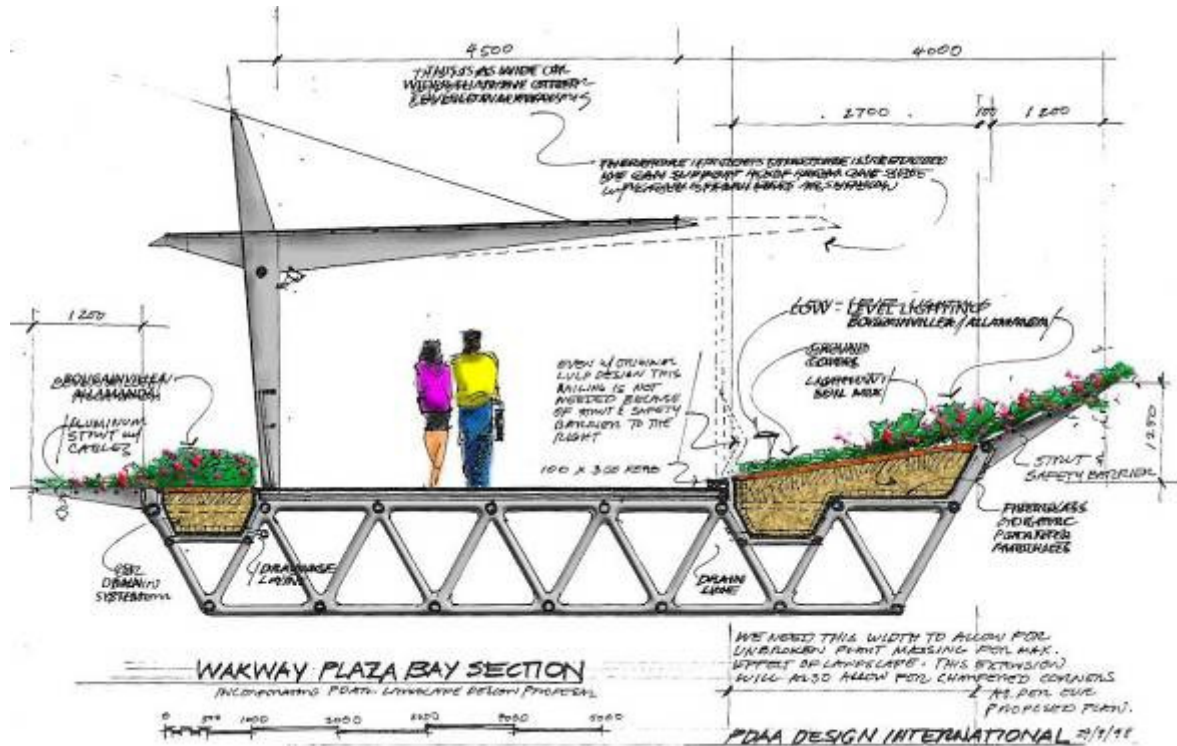


Figure 8: Proposed plan and details of intersection plaza for elevated walkway (This will serve as elevated small park or plaza for pedestrians)

Traffic congestion is still observed in major nodes like Makati Avenue corner Arnaiz St. and another exit area like V.A. Rufino corner Amorsolo. Significantly, there are no underpasses along these nodes and crossing pedestrians and ambulant vendors also contribute to the heavy traffic being experienced in these areas.

Fences along the sidewalks help to prevent people from crossing anywhere although there are still some people who are strong-headed and passing wherever they want.

Ease of traffic can also be attributed to the presence of food outlets scattered along the districts. Before their proliferation, a big percentage of people still trooped to the commercial center during lunch hour using private cars and accessible public vehicles. At present, most of the people especially those a little farther from the elevated walkway and thus from Ayala Center, choose to spend their lunch hour in these places which is within walking distances from their offices.

### Summary

Based on the above study, it has been found out that the following existing conditions discourage people from walking and thus make the street unfriendly:

1. Distance and accessibility (fences, not enough to prevent people from seeking short-cuts)
2. Lack of shade and cover from harsh climate
3. Uneven elevation of existing sidewalks
4. Narrow width of the pavement
5. Blockade by street elements like utility poles, signage, tree trunks, etc
6. Lack of proper maintenance
7. Lack of pleasant ambiance. This can be presence of fellow passers-by, retail or food shops or anything that will suggest acceptable social interactions. Introduction of small park or plaza where people congregate may help.
8. Unkept or unmaintained surroundings

If all these impediments can be addressed, people can be encouraged to walk as in the case of the elevated walkway wherein almost all of the above have been addressed.

### Recommendations

#### Measures that can serve as guidelines to encourage pedestrianization:

1. Achieve pedestrian accessibility thru following measures:
  - Provide midway pedestrian alleys if the block is more than 250 meters (similar to subdivision code). Otherwise, encourage building owners to allow pedestrians to pass through (as in the case of Tower I).

- Provide intermodal means of transportation (not only in MCBBD but also in the whole of Metro Manila or interlink the existing metro rails as planned by the Makati City government)
- Build more accessible passageways like under and overpasses (with escalators and covers)
2. Build more covered walks or plant more shade trees, if possible, to provide pedestrian comfort and relief from harsh tropical climate.
3. Implement strong measures to force the utility providers to use a common pole to reduce sidewalk clutter. (This has been partially applied along Pasong Tamo St. by MMDA). See **Figs. 9 & 10**.



Figure 9: Existing



Figure 10: Proposed

4. Instigate the policy regarding uniformity in sidewalk level. Sidewalk can slope toward the road to attain the same height. Mountable curbs can be used in areas where entry driveways are needed.
5. Widen sidewalk with a minimum clearance of 1.20 m. In some cases, sidewalk widening can be done through apportioning part of the road allotted to parking. Parking can be concentrated in a designated parking building. In extreme instances, road closure can be imposed and totally pedestrianized.



6. Apply shared street principle in very narrow sidewalk and street. Bollards can be used to protect pedestrian from vehicular flow. Use of interlocking blocks has been found to reduce speed.
7. Impose rule on design coherence and uniformity. Enforce unified theme for street furniture like lighting, paving, benches, street signage, bollards, kiosks, trees, etc. (see Fig. 11 & 12).
  - Uniform shade tree species
  - Use of porous paving materials to allow surface water permeation
  - Widening of sidewalks
  - Uniform paving design



Figure 11: Existing



Figure 12: Proposed

8. Provide relief to pedestrians by having small parks or small open spaces along the streets. An elevated park/plaza (as shown in Fig. 8) can be incorporated with the pedestrian overpasses in very cramped and busy streets.
9. Apply environment-friendly resources, like porous materials for paving to revive the aquifers and shade trees to help purify the air.
10. Encourage building occupants to show some transparency or semblance of people movement to encourage feeling of conviviality and openness if retail shops are absent.
11. Enforce traffic rules strictly not only for erring drivers but also for the straying pedestrians.
12. Have a good program of maintenance.

It is believed that with the above recommendations and guidelines, the conditions of existing sidewalks around the country and in other tropical places can still be improved and thus make a city more friendly, walkable and memorable (see Fig. 13).



Figure 13: A walkable city

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